

**Listing of Claims**

1-19. (Canceled)

20. (Previously Presented) A humanized CC49 antibody, deposited as ATCC Accession number PTA-4182 or ATCC Accession number PTA-4183.

21-66. (Canceled)

67. (Currently amended) A humanized CC49 antibody The antibody of claim 23, comprising:  
four variable light framework regions and four variable heavy framework regions of a  
human antibody:

a light chain complementarity determining region (L-CDR)1, a L-CDR2, a L-CDR3, a  
heavy chain complementarity determining region (H-CDR)1, a H-CDR2, and a H-CDR3;

a non-conservative substitution of a first residue, wherein the first residue is in the L-  
CDR3 of the antibody; and

a substitution of a second residue, wherein the second residue is in any L-CDR or H-  
CDR of the antibody;

wherein the non-conservative substitution of the first residue at position 91 is a tyrosine to proline substitution, the substitution of the second residue at position 27b is a valine to leucine substitution, the L-CDR1, L-CDR2, L-CDR3, H-CDR1, H-CDR2, and H-CDR3 are the parent

HuCC49V10~~CC49~~ antibody L-CDR1, L-CDR2, L-CDR3, H-CDR1, H-CDR2, and H-CDR3, respectively, and the humanized CC49 antibody has a high binding affinity for TAG-72 and is  
minimally immunogenic, compared to ~~and the parent CC49 antibody is HuCC49V10, deposited as~~  
ATCC Accession No. PTA-5416.

68. (Previously presented) A humanized CC49 antibody, comprising:

a light chain complementarity determining region (L-CDR)1, a L-CDR2, and a L-CDR3, a heavy chain complementarity determining region (H-CDR)1, a H-CDR2, and a H-CDR3, all of a parent CC49 antibody, wherein the L-CDR3 of the humanized CC49 antibody or of an antigen binding fragment of the humanized CC49 antibody comprises a non-conservative amino acid

substitution at position 91 and has a high binding affinity for TAG-72, compared to the parent CC49 antibody, wherein the parent CC49 antibody is HuCC49V10, deposited as ATCC Accession No. PTA-5416.

69. (Previously Presented) The humanized CC49 antibody of claim 68, wherein the non-conservative substitution is a tyrosine to proline substitution.

70. (Previously presented) A humanized CC49 antibody, comprising:  
a light chain complementarity determining region (L-CDR)1, a L-CDR2, and a L-CDR3, a heavy chain complementarity determining region (H-CDR)1, a H-CDR2, and a H-CDR3, all of a parent CC49 antibody, wherein the L-CDR3 of the humanized CC49 antibody or of an antigen binding fragment of the humanized CC49 antibody comprises a tyrosine to proline substitution at position 91 and has a high binding affinity for TAG-72, compared to the parent CC49 antibody, wherein the parent CC49 antibody is HuCC49V10, deposited as ATCC Accession No. PTA-5416.

71. (Previously Presented) The antibody of claim 70, wherein the high binding affinity is at least about  $1.2 \times 10^{-8}$  M.

72. (Previously Presented) The antibody of claim 70, wherein the humanized CC49 antibody is minimally immunogenic.

73. (Previously Presented) The antibody of claim 70, wherein the humanized CC49 antibody further comprises an effector molecule.

74. (Previously Presented) The antibody of claim 73, wherein the effector molecule is a detectable label.

75. (Previously Presented) A pharmaceutical composition comprising a therapeutically effective amount of the antibody of claim 70 in a pharmaceutically acceptable carrier.

76. (Withdrawn) A method of detecting a TAG-72-expressing tumor in a subject, comprising:  
contacting a sample from the subject *in vivo* or *in vitro* with the antibody of claim 70 for a sufficient amount of time to form an immune complex; and  
detecting the presence of the immune complex, wherein the presence of the immune complex demonstrates the presence of the TAG-72-expressing tumor.

77. (Withdrawn) The method of claim 76, wherein the tumor is a colorectal tumor, a gastric tumor, a pancreatic tumor, a breast tumor, a lung tumor, an adenocarcinoma, or an ovarian tumor.

78. (Withdrawn) The method of claim 76, wherein the antibody further comprises an effector molecule.

79. (Withdrawn) The method of claim 78, wherein the effector molecule is a detectable label or a toxin.

80. (Previously presented) A humanized CC49 antibody, comprising:  
four variable light framework regions and four variable heavy framework regions of a human antibody;  
a light chain complementarity determining region (L-CDR)1, a L-CDR2, and a L-CDR3 of the parent HuCC49V10 antibody, a heavy chain complementarity determining region (H-CDR)1, a H-CDR2, and a H-CDR3 of the parent HuCC49V10 antibody;  
a non-conservative substitution of a residue at position 91 in the L-CDR3 of the antibody; and  
a substitution of a residue at position 27b of L-CDR1 of the antibody;  
wherein the humanized CC49 antibody has a high binding affinity for TAG-72 and is minimally immunogenic, compared to a parent HuCC49V10 antibody, deposited as ATCC Accession No. PTA-5416.

81. (Previously Presented) The humanized CC49 antibody of claim 80, wherein the substitution at position 91 is a proline to tyrosine substitution and the substitution at position 27b is a

valine to leucine substitution.

82. (Previously presented) A humanized CC49 antibody, comprising:

four variable light framework regions and four variable heavy framework regions of a human antibody;

a light chain complementarity determining region (L-CDR)1, a L-CDR2, and a L-CDR3 of the parent HuCC49V10 antibody, a heavy chain complementarity determining region (H-CDR)1, a H-CDR2, and a H-CDR3 of the parent HuCC49V10 antibody;

a tyrosine to proline substitution at position 91 in the L-CDR3 of the antibody; and

a valine to leucine substitution at position 27b of L-CDR1 of the antibody;

wherein the humanized CC49 antibody has a high binding affinity for TAG-72 and is minimally immunogenic, compared to a parent HuCC49V10 antibody, deposited as ATCC Accession No. PTA-5416.

83. (Previously Presented) The antibody of claim 82, wherein the humanized CC49 antibody further comprises an effector molecule.

84. (Previously Presented) The antibody of claim 83, wherein the effector molecule is a detectable label.

85. (Previously Presented) A pharmaceutical composition comprising a therapeutically effective amount of the antibody of claim 82 in a pharmaceutically acceptable carrier.

86. (Withdrawn) A method of detecting a TAG-72-expressing tumor in a subject, comprising:

contacting a sample from the subject *in vivo* or *in vitro* with the antibody of claim 82 for a sufficient amount of time to form an immune complex; and

detecting the presence of the immune complex, wherein the presence of the immune complex demonstrates the presence of the TAG-72-expressing tumor.

87. (Withdrawn) The method of claim 86, wherein the tumor is a colorectal tumor, a gastric

tumor, a pancreatic tumor, a breast tumor, a lung tumor, an adenocarcinoma, or an ovarian tumor.

88. (Withdrawn) The method of claim 86, wherein the antibody further comprises an effector molecule.

89. (Withdrawn) The method of claim 88, wherein the effector molecule is a detectable label or a toxin